

Application No. 10/672,937  
Amendment and Reply Dated January 10, 2008  
In Response to Office Action Dated October 19, 2007

**REMARKS**

Continued examination and favorable reconsideration are respectfully requested.

**Introduction**

Claims 1-11, 13-16, and 18 remain pending in the application. Claims 12, 17, and 19-44 have been canceled without prejudice or disclaimer, and new claims 45-47 are added. Thus, claims 1-11, 13-16, 18, and 45-47 are pending. Claims 1, 2, 4-11, 13-16, and 18 have been amended. Support for amended claim 1 and new claim 47 can be found throughout the specification, for example, at paragraphs [0055], [0091]-[0095], [0097], and [0098], and in FIG. 1, FIG. 3, and FIG. 4 of corresponding U.S. Patent Application Publication No. US 2004/0142347 A1. Support for new claims 45 and 46 can be found throughout the specification, for example, at paragraphs [0095] and [0102], and in FIG. 3 and FIG. 4. No new matter has been added. Reconsideration and prompt favorable action are respectfully requested.

**Rejection of Claims under 35 U.S.C. § 101**

At page 2, of the Office Action, claims 1-18, and 43 are rejected under 35 U.S.C. § 101 because the claimed invention is allegedly directed to non-statutory subject matter. Claims 12, 17, and 43 have been canceled rendering the rejection of these claims moot. For the reasons set forth below, Applicants respectfully traverse the rejection.

Applicants gratefully appreciate the Examiner's helpful suggestions set forth at page 4, lines

Application No. 10/672,937  
Amendment and Reply Dated January 10, 2008  
In Response to Office Action Dated October 19, 2007

2-3, of the Office Action. Claim 1 has been amended to recite outputting variant information to a user. It is respectfully submitted that the claimed invention, in fact, produces a useful, concrete, and tangible result. Accordingly, the rejection under 35 U.S.C. § 101 of claims 1-11, 13-16, and 18 is overcome. Reconsideration and withdrawal of the rejection are respectfully requested.

**Rejection of Claims under 35 U.S.C. § 112**

At page 4, the Office Action rejects claims 1-18 and 43 under 35 U.S.C. § 112, first paragraph, for allegedly failing to comply with the written description requirement. Claims 12, 17, and 43 have been canceled rendering the rejection of these claims moot. For the reasons set forth below, Applicants respectfully traverse the rejection.

The Office Action states, “the claims are amended to recite ‘wherein the reportable ranges comprise base sequence ranges related to the at least one sample having an associated quality value exceeding a confidence threshold’ . . . the specification does not find adequate support for the new limitation.” Although Applicants do not agree with this statement, claim 1 has been amended, and no longer includes the aforementioned phrase. As a result, the rejection of claims 1-11, 13-16, and 18 has been overcome. Reconsideration and withdrawal of the rejection are respectfully requested.

**CONCLUSION**

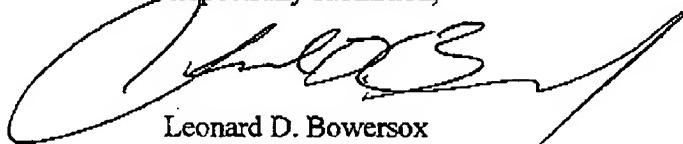
In view of the foregoing remarks, applicants respectfully request favorable reconsideration of the present application and a timely allowance of the pending claims.

Application No. 10/672,937  
Amendment and Reply Dated January 10, 2008  
In Response to Office Action Dated October 19, 2007

Should the Examiner deem that any further action by applicants or applicants' undersigned representative is desirable and/or necessary, the Examiner is invited to telephone the undersigned at the number set forth below.

If there are any other fees due in connection with the filing of this response, please charge the fees to deposit Account No. 50-0925. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

Respectfully submitted,



Leonard D. Bowersox  
Reg. No. 33,226

KILYK & BOWERSOX, P.L.L.C.  
3603-E Chain Bridge Road  
Fairfax, Virginia 22030  
Tel.: (703) 385-9688  
Fax: (703) 385-9719